REMARKS

This application has been carefully reviewed in view of the above office action in which claims 1-3, 6, 8, 13, 14, 20-22, 28, 30, 31 and 36-38 were under 35 U.S.C. §102(b), as anticipated by Pool (Fig. 4). The undersigned appreciates the indication of allowable subject matter in claims 4, 5, 7, 9-12, 23-27, 29, 32-35 and 39-42 (these claims are objected to in dependent form, but would be allowable if rewritten), and the indication of allowance of claims 15-19. In view of the remarks below, it is believed unnecessary to rewrite the above claims in independent form at this time.

As clearly stated in the Background section of the present application:

> *"...the wide variations of antenna surroundings affects not only the antenna's radiation pattern, but also the antenna's characteristic impedance as seen by the device's radio frequency (RF) power amplifier (PA). Such impedance variations can and do seriously impact the transmission of power from the power amplifier to the antenna. As the antenna and the power amplifier become mismatched as a result of the antenna's surroundings, standing waves are created and power is reflected from the antenna back into the power amplifier. The result is that the power amplifier can become unstable, operate at significantly reduced efficiency, perform outside of design parameters or even draw excessive DC current which may result in damage to the power amplifier."*

This problem is addressed in a distributed amplifier consistent with certain embodiments with the present invention by "measuring a circuit parameter indicative of the load impedance" and "changing a drive signal ... to compensate for the change in load impedance." (e.g., Claims 1 and 20)

The Poole reference (4,701,716) describes a manual design technique for adjustment of a phase shifter in a prototype amplifier circuit (FIG. 4) in which two

complete amplifiers are configured in parallel. Once this phase shifter is properly adjusted, one can make a determination as to a transmission line length (transmission line 724) for use in the final circuit design (FIG. 7) to provide a proper amount of phase shift between the two parallel amplifiers. In Poole's technique, the phase shifter 424 is first tuned coarsely to maximize power to a load, then the phase shifter 424 is fin ly adjusted by minimizing the power dissipated in the "reject load 42" (see col. 5, lines 37-42). The power measurements are purported to be nothing more than just that – power measurements that are maximized or minimized in a tuning process.

This reference fails to meet all of the claim features of claims 1-2, 6, 8, 13, 14, 20-22 in at least the following ways:

1. Poole has no "measuring a parameter indicative of the load impedance" as called for, for example, in claim 1 and 20 (and all claims dependent thereon). Clearly, the power measurement being made is in fact only indicative of power dissipated in the "matched load" (connected to terminal 44) and in the "reject load 42" and there is no suggestion that this power is affected by anything other than the change in the phase shifter (i.e., changes in load impedance). The Office Action asserts that this function is carried out in power meter 498. While power measurements can be useful to extrapolate to load impedance variations, the undersigned finds no suggestion that this is being done in the Poole reference.
2. Poole has no mechanism responsive to the measuring of the load impedance for changing a drive signal to compensate for a change in load impedance as called for, for example, in claim 1 and 20 (and all claims dependent thereon). Poole changes the drive signal characteristics purely as a result of power measurements with no indication that such measurements are related back to a load impedance variation. The Office Action appears to assert that this function is carried out in power meter 496. The undersigned finds no basis in Poole to support this assertion and cannot understand how a power meter

could possibly carry out such a function.

3. There is no recognition of the problem of load impedance changes associated with variation in the environment of the load (antenna) as described above. The load in this reference is described as a "matched load" (col. 4, line 61). Those skilled in the art will appreciate that this suggests a fixed load with either no recognition that the impedance can change (or no possibility that it can change) in Poole's environment. There is no discussion at all of compensation for load impedance variations.
4. There is no feedback path provided between the measurement and the mechanism for changing the drive signal consistent with the claims, except for the operator's manual reading of power meters and manual adjustment of phase.

In view of these distinctions, claims 1-2, 6, 8, 13, 14, 20-22 are clearly not anticipated by Poole as asserted in the Office Action. Reconsideration and allowance is respectfully requested.

Regarding claims 28, 30, 31 and 36-38, the Poole reference fails to meet all of the claim features in at least the following ways:

1. Poole has no "measuring a parameter indicative of the load impedance" as previously discussed.
2. Poole does not calculate a current required from a last stage of the distributed amplifier to make the load impedance appear to be a desired impedance as called for independent claims 28 and 36 and all claims dependent thereon.
3. Poole does not apply an input to the last stage of a distributed amplifier to achieve the calculated current from the last stage of the distributed amplifier as called for in independent claims 28 and 36.
4. There is no recognition of the problem of load impedance changes associated with variation in the environment of the load as described above.

Thus, it is clear that Poole fails to meet all claim features of claims 28, 30, 31 and 36-38. Accordingly, reconsideration and allowance is respectfully requested at an early date.

In view of this communication, all claims are believed to be clearly in condition for allowance and such is respectfully requested at an early date. The undersigned respectfully requests the courtesy of a telephone interview with the Examiner to clarify the above arguments. The undersigned can be reached at 919-816-9981.

Respectfully submitted,

Jerry A. Miller
Registration No. 30,779
Larson & Associates, P.C.
221 East Church Street
Frederick, MD 21701-5405

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